IMPORTANT

Hydraulic clutch system vacuum bleed procedure

NOTE: You will need a hand held vacuum pump and fresh high quality DOT 3 or 4 brake fluid for this procedure.

1) Remove clutch fluid reservoir cap. Be sure the fluid level is at normal as marked.
2) Use athe enclosed round rubber reservoir gasket to create a temporary seal against the clutch master cylinder reservoir.
3) Using the enclosed vacuum line cup, attach the vacuum hand pump to the rubber gasket and introduce 10 to 15 in/Hg negative pressure to the clutch hydraulic system. IMPORTANT: you will be drawing a vacuum from the air gap above the fluid within the reservoir… DO NOT draw any fluid into the vacuum pump! If the system is sealed and done correctly, the negative pressure should hold for several minutes. This procedure will draw out any air contained within the hydraulic system. DO NOT depress the clutch pedal while there is a vacuum applied to the hydraulic clutch system.

4) Release vacuum pressure from the system and top off fluid as needed. Repeat step 3 several times. Then remove the vacuum pump and rubber reservoir gasket.
5) Top off the fluid reservoir as needed and check the hydraulic system for leaks.
6) Replace the reservoir cap.
7) Once the clutch hydraulic vacuum bleed procedure is complete, the clutch should engage and start to move the vehicle at approximately half of the clutch pedal travel up from the floor.

<u>Note</u>: It's common for small air bubbles to remain aerated within the clutch fluid for several hours. The clutch vacuum bleed procedure may need to be repeated after the vehicle sits overnight.

IMPORTANT

Centerforce 2007-2018 Jeep JK Clutch Internal Hydraulic Conversion

Jeep JK with manual transmission uses a hydraulic/mechanical clutch release system. The factory Jeep release system is known to have issues with sticky clutch fork and release bearing rattle. Your new Centerforce internal clutch release bearing system eliminates the parts associated with the mechanical operation as well as several problematic wear points. This fully hydraulic kit is designed to restore quiet, smooth clutch operation. Parts included are as follows: Internal Release Cylinder and Bearing assembly, Aluminum Bearing to Transmission Adapter, stainless steel braded pressure hoses (2), quick disconnect fittings and bellhousing plate. These new Centerforce components are designed to work in conjunction with the factory clutch Master Cylinder. Installation of your Centerforce internal clutch release bearing system is easy using regular tools and can be performed during the clutch installation procedure or at anytime the transmission is removed from the vehicle. NOTE: you will need a hand held vacuum pump in order to properly purge air from the hydraulic system once the installation is complete. Please read through these instructions entirely before starting. If you have questions or if you require more information, please contact our Tech Line (928) 771-8422 during regular business hours or see our website www.centerforce.com for installation videos.

Jeep JK uses a shared brake and clutch fluid reservoir. The reservoir features a single fill point – however there is an internal partition that keeps fluid separate from each system. Changing the clutch hydraulics will not affect the vehicle braking system. Please note that if your Jeep JK has more than 150k miles on the odometer and it still has the original factory installed Clutch Master Cylinder, it is advised that you replace the Clutch Master Cylinder with a new part from your Jeep dealer or a high quality equivalent. Also, when working with your Jeep clutch system, you MUST use only fresh, clean factory Original Equipment (OE) or equivalent high-quality DOT 3 or 4 brake fluid. The use of any other fluid is NOT recommended and will void the clutch system warranty. Remember that brake fluid can harm painted surfaces, take steps to cover or otherwise protect any surface that might get damaged by splashed or spilled fluid. Immediately clean-up any brake fluid that is outside of the hydraulic system. In order to help retain fluid in the clutch fluid reservoir, it is recommended to keep the fill cap tightly sealed on fluid reservoir until the new clutch hydraulic system has been completely installed. DO NOT depress or operate the clutch pedal at anytime while working on the clutch hydraulic system.

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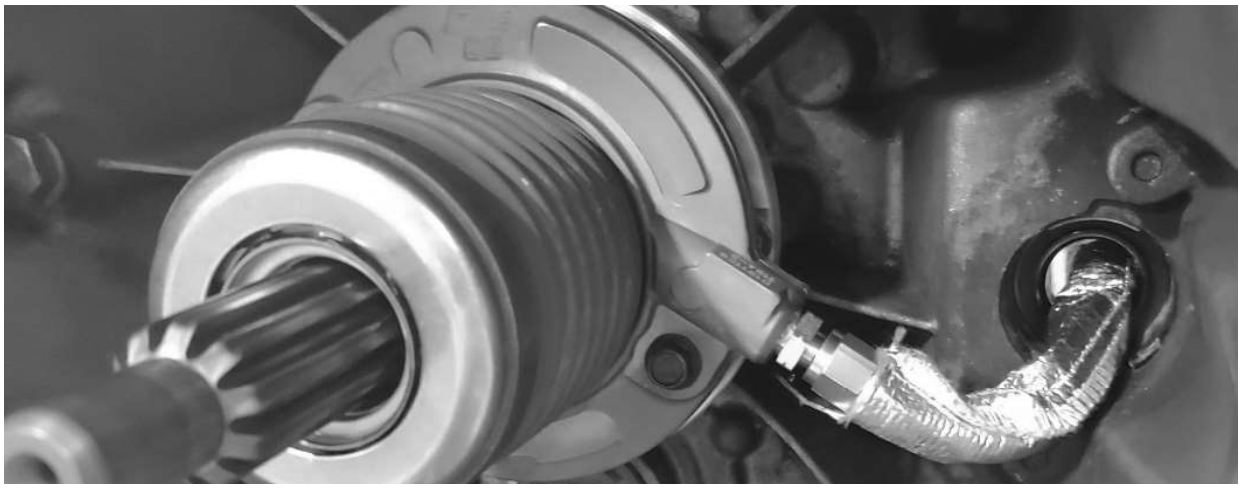
1. Remove transmission.
2. Remove Original Equipment Release Bearing and Release Bearing Arm from the Bellhousing.
3. Remove 3 bolts holding the Release Bearing collar on the transmission. Save the 3 collar bolts for the installation of the Centerforce Aluminum Bearing to Transmission Adapter. NOTE: the clutch arm pivot ball stud can remain in place – no need to remove the ball stud.

4. Be sure surfaces within the Bellhousing are clean and then install the Centerforce Aluminum Bearing to Transmission Adapter using the 3 Release Bearing collar bolts from step 3. Be sure to orient the adapter so the release bearing hydraulic hose points towards the bellhousing slave cylinder opening (see picture). Tighten the adapter bolts snug using HAND TOOLS only….. torque specifications are 60 inch/lbs. DO NOT over tighten.



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5. Remove the short hydraulic hose from the Release Bearing Cylinder. Install the Centerforce Hydraulic Release Cylinder and Bearing Assembly using the TWO included 6mm bolts. Again, be sure the release bearing hose fitting points to the outside of the bellhousing. Tighten the Bearing Assembly bolts snug using HAND TOOLS only….. torque specifications are 60 inch/lbs. DO NOT over tighten.
6. Install the short hydraulic hose from outside the bellhousing – the straight fitting goes inside to the release bearing base as shown. Tighten the fittings. The bellhousing cover plate located on the short hydraulic line installs over 2 studs where the OE external slave cylinder mounts. Use the 2 nuts from the OE external slave cylinder and secure in place as shown.

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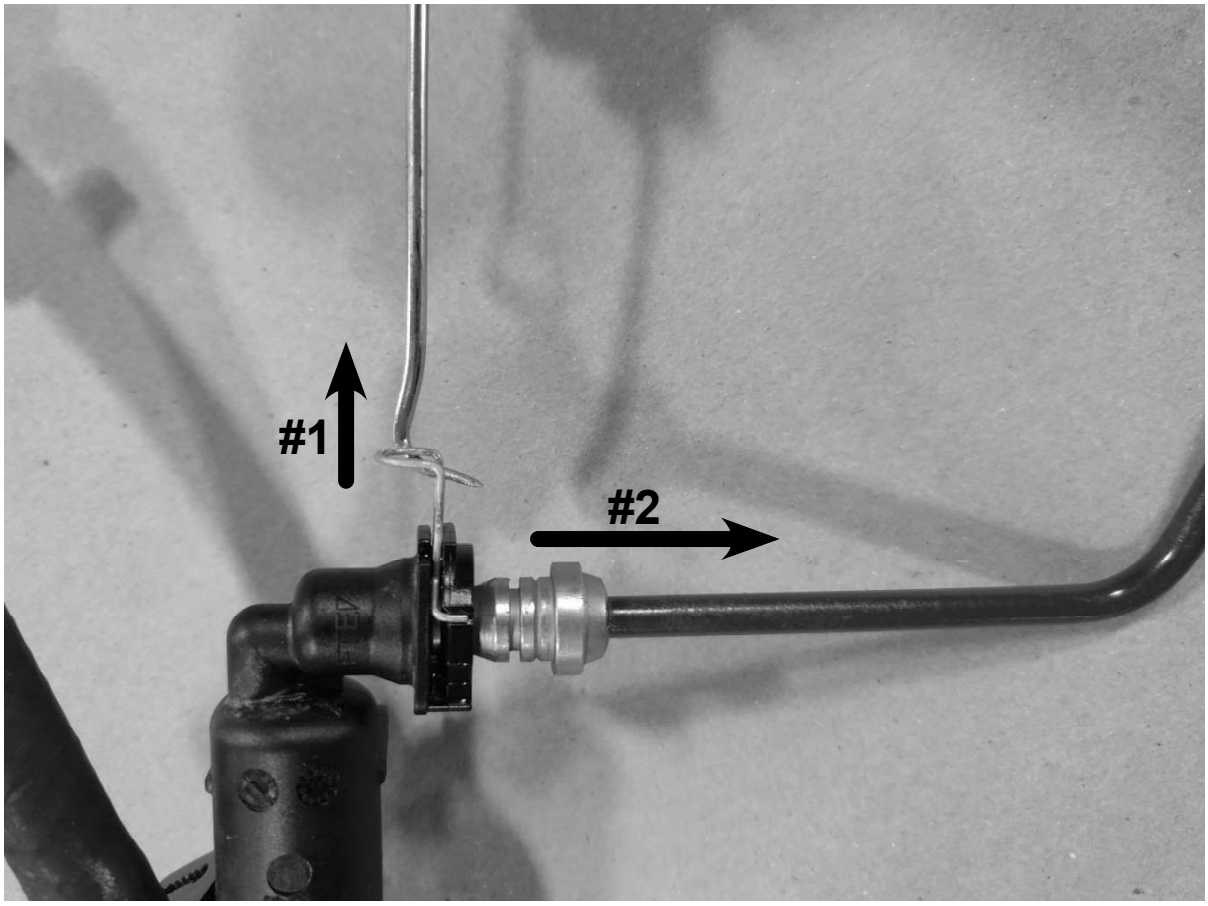
7. Install the Male quick disconnect fitting on to the 90 degree fitting located on the short hydraulic hose and tighten using line wrenches or equivalent.
8. Remove the factory pressure hose from the plastic retention clip(s) on the firewall, below the Master Cylinder. Be careful to not break the retention clip(s) as they will be reused to hold the new pressure line.
9. Remove the factory pressure hose from the Clutch Master Cylinder. Using a small screwdriver or pick tool, pull the hose connection quick release lock wire towards the front of the vehicle. It will move about a quarter inch and then stop. Push the pressure hose downward and out of the Master Cylinder.



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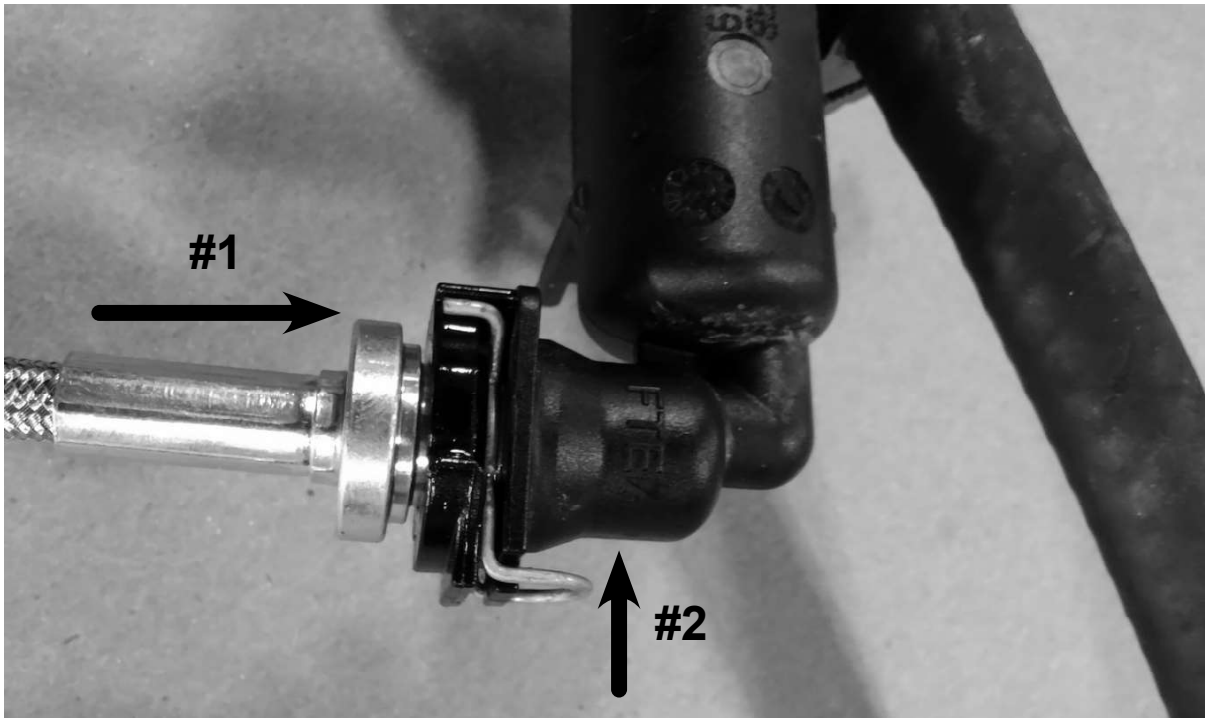
10. Install the Female quick disconnect fitting on the threaded end of the long Centerforce braded pressure hose and tighten using line wrenches or equivalent. Note, the hose insulation sleeve will need to be positioned at the lower portion of the pressure hose around/near the exhaust system. Using a small amount of clean brake fluid, lubricate the pressure hose O-Ring disconnect fitting and install into the Clutch Master Cylinder. Once the fitting is fully seated into the Clutch Master Cylinder, push the lock wire in to retain the pressure hose. Pull gently downward to check the connection.



11. Attach the new hydraulic pressure hose into the firewall retention clips. NOTE: Additional zip ties may be used to properly route the new pressure hose. Avoid looping, sharp bends, kinks and heat sources.
12. Install transmission and connect the long and short pressure hoses to each other at the quick fittings.
13. Using a hand held vacuum pump, follow the enclosed Hydraulic clutch vacuum bleed instructions.
14. Once the clutch hydraulic system has been purged of air, pump the clutch pedal 50 times with the engine off to ensure proper operation. Check for fluid leaks and then top off the reservoir as need. Do not overfill. Drive the vehicle and note the clutch engagement point. The engagement point should be at or just below the clutch pedal travel mid-point. If not, the vacuum bleed procedure should be repeated until all of the air is purged from the clutch hydraulic system.

This bearing is a O.E.M. self aligning design

NOTICE:

Bearing may appear to be off-center, however this is part of the feature, and will center during use

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